Author Index

Volume 20

	Page		Page
Baer, Melvyn J.	107	Mankins, Jerome V.	179
Bailey, Donald W.	63	Mendelsohn, Ora	53
Baker, G. A.	179	Meredith, Howard V.	159
Bass, A. D.	19	Mills, Kenneth S.	29
Beach, Judith	265	Moss, Melvin L.	107
Cerecedo, Leopold R.	229	Naf, Ulrich	91
Chai, C. K.	53	Olsen, Norman S.	1
Chamelin, Isidor	265	Rubinson, Ann C.	121
Clausen, H. J.	213	Rudnick, Dorothea	51
Crowell, Sears	321	Saelhof, Clarence	265
Diller, Irene C.	51	Schjeide, Ole Arne	195
Drake, J.	19	Schreckenberg, Sister M. Gervasia	295
Eichorn, H. L.	243	Shrank, A. R.	29
Elrod, Lloyd M.	187	Singer, Edward J.	229
Frair, Wayne F.	9	Smith, R. F.	121
Harvey, Ethel Browne	321	Sokoloff, Boris	265
Hellwig, C. A.	315	Stein, Otto L.	37
Hochstrasser, Harry	229	Weston, John	75
Holcomb, Albert E.	159	Whiting, Anna R.	227
Kato, Shiro	265	Wolfson, S. L.	19
Kidwell, James F.	275	Woodside, Gilbert L.	9
King, Robert C.	121		

Subject Index

	Page
Adrenal weight of rats	5
Adrenal weight, related to hypertension	1
Allometric equations for growth relations	277
Allometric growth of the dark Cornish fowl	275
Amino-acid content of protein of chick embryo during growth	234
Amino-acid ratios during growth	235, 237
Androgen, response of inbred mice and their hybrid to	53
Androgen secretion in castrated mice	54
Antero-posterior growth gradients in rat skull	112
Antheridia, initiation of in polypodiaceous ferns	91
Antheridial factor, activity spectrum	99
Antheridium-inducing factor from fern prothalli	92
Anther measurements of *Odocoileus*	185
Aspects of Synthesis and Order in Growth (Book Review)	51
Athyreosis, effect on induction of rat sarcoma	19
Avena sativa	30
Avena seedlings, effect of X-irradiation on	29
Axis, measurements of, in mouse embryos	68
8-Azaguanine, effect on chick embryo tissue *in vitro*	9
Basal skull surface length	112
Basi-occipital length, rat	113
Beta cells of anterior pituitary	218
Bicanine diameter	167
measurements of	160
Blechnum gibbum	98
Body measurements of dark Cornish chick	286
Body weight and liver weight in cortisone-treated chick embryos	78
Brain weight of rat	117

Page

Calvaria, rat, anatomy of 108
Carcinogen-produced tumors in rats 22
Cardiac hypertrophy 1
Cell counts in embryonic chick liver 76
Cell division and synthesis of nucleic acids 85
Cells, number per unit weight of chick liver 79
Chemical components of embryonic chick liver 75
Chick embryo, amino acids present during development 229
Chick embryo, plasma lipoproteins in 195
Chick embryos, effect of 8-azaguanine on 9
Chick embryos, growth *in vitro* 10
Chilomonas paramecium 187
Chilomonas, starch and fat content of 191
Chromosomes of nurse cells 128
Colchicine administration to castrated mice 54
Correlation coefficients of mandible measurements 67
Cortisone, effect on chemical constituents of developing chick liver . . . 75

Degeneration of chick embryo tissue due to 8-azaguanine 15
Dental arch width
  age changes in 171
  human 159
  at deciduous canine 164
2-Deoxy-D-Glucose, effect on nucleic acid content of rat carcinoma . . 271
Differential growth of rat skull 107
Drosophila melanogaster, oogenesis in 121
Dryopteris Filix-mas 91

Effect of X-irradiation on rooting of plants and leaf emergence . . . 31
Egg chamber *Drosophila*, development of 125
Embryonic development of thyroid gland in the frog 295
Embryonic growth rate in *Zea mays* 37
Embryos
  lysine and leucine determination in 231
  protein determination in 231
  tryptophane determination in 231
Extraction of principal components in statistical analysis 64

Factor analysis of growth of California mule deer 179
Fibrosarcoma, rat 23
Filicinae, antheridium factor in 103
Follicle cells of *Drosophila*, development of 129
Food capacity of man and woman, comparison of 260
Food
  creative component of 247
  sustentive component of 247
Frog
  early larval stage 299
  fore limb emergence stage 299
  hind limb bud 299
  late embryonic stage 297
  post-metamorphic stage 299
  rapid hind limb growth stage 299
  tail resorption stage 299
Frog embryo, resorption of external gills 298

Gametophytes of *Onoclea* 95
Genetic and environmental components of morphogenesis in mice . . . 63
Genetic variants in response to male hormones 34
Germination of seedlings 30

Page

Glucose analog (2-DG)
anti-tumor activity of 266, 268
effect on nucleic acids of tumor tissue 265
toxicity of 267
Glycogen, effect of corticosteroids on deposition in liver 87
Glycogen and fat in embryonic chick liver 77
Growth
allometric 275
gradients in rat skull 110, 112
of *Avena* seedlings 29
of axis and mandible in inbred strains of mice 66
of California mule deer 179
of *Chilomonas*,
effect of concentration of KCN on 187, 189, 190
of Cornish fowl 275
curves for 283
of gametophytes by cell division 96
of human female 256
of human male 256
on inbred and hybrid plants, comparison of 49
interrelationships among body parts 63
of the normal rat calvaria 111
of oocyte nucleus 127
stages of 246
Growth and food consumption 255
Growth paths
mathematical derivation of 251–254
ultimate and current 257
Growth pattern of chick, genetic variability of 289
Growth patterns, major and minor 247
mathematical limit of 245
Growth phenomena in maize hybrids 47
Growth-reproduction cycles 243

Heart weight of rats 4
Heart weight, related to hypertension 1
Heterosis in plants 37
Histomorphological changes in rodent crania 116
Hyla brunnea 295
Hypertension produced by renal constriction and Vitamin B_6-deficiency . . 1

Inactivation of auxin by X-irradiation 35
Inbred mouse strains 54
Interparietal length, rat 115
I^{131} uptake in rats 22
Isolation of nuclei from liver homogenates 78

Keel length of fowl, growth measurements of 285

Lampbrush chromosomes 128
Leaf initiation, rate of 44
Leghorn hens, protein characteristics of 243
Length of plant as affected by X-irradiation of seeds 32
Leucine content of chick and mouse embryo 229
Lipoprotein in whole embryo and embryonic liver 200
Lipoproteins, medium density and growth 202, 203
Liver of embryonic chick 75
Logarithmic analysis of allometric equations 284
Lymphocytic foci in thyroid, experimental production of 315
Lymphocytic focus in guinea pig thyroid 316
Lysine content of chick and mouse embryo 229

Page

Maize embryos 40
Mandible, principal components of 68
Mandibular arch, human, measurements of 163
Maxillary arch, human, measurements of 163
Mean flotation rates of lipoproteins 201
of chick embryos 197, 200
3-Methylcholanthrene, in induction of rat sarcoma 19
Mice, inbred strains of 53
Mice, morphogenesis in 63
Micropyle of *Drosophila* egg 144
Mitotic index 55
Mitotic rate in epithelium of seminal vesicles of mice 53
Morphogenesis of bone form 115
Morphogenesis in mice 63
Morphogenesis of thyroid in *Hyla brunnea* 306
Mouse embryo, amino acids present during development 229
Mouse morphogenesis, statistical analysis of 63–72
Mouse sarcoma 180 266
Mule deer, growth variables in 182, 183

Nasal length, rat 113
New Hampshire chicken embryos 195
Nucleic acids of developing liver 77
Nucleic acids of tumor tissue 265
Nurse cells of *Drosophila*, development of 128

Odocoileus hemionus 179
Onoclea sensibilis 93
Oocyte of *Drosophila*, development of 125
Oogenesis in adult *Drosophila melanogaster* 121
Oogenesis, stages of 122
Organ weight and hypertension 7
Ovarioles of *Drosophila*, development of 149

Pituitary, changes in histology following thiouracil 224
Pituitary gland of rat, effect of antithyroid drug on 213
Pituitary size following thiouracil administration 215
Plasma lipoproteins,
comparison in adult and embryos 208
comparison by electrophoretic means 209
ultracentrifuge patterns in the chick 195
Plasma, major lipoprotein components of 206
Polypodiaceae 100
Potassium cyanide, effect on growth and respiration of *Chilomonas* . . . 187
Properties of growth factor from fern prothalli 96
Protein consumption correlated with growth patterns 244
Protein of man and woman, comparison of 260, 261
Proteins and lipides in various density fractions 204, 205
Prothallus, extract of 92
Pteridium aquilinum 91
Pteridium factor 100

Radio-active iodine in experimental production of lymphocytic foci . . . 315
Radio-active iodine uptake in thyroidectomized and non-thyroidectomized animals 24
Rat,
athyroid 23
euthyroid 23
Rat carcinoma, G-175 266
Rat carcinoma, growth of 269
Rat carcinoma, DNA and PNA content of 269
Rat sarcoma, induction of 19

Page

Rat skull, differential growth of 107
Rate of cell growth in androgen-treated mice 56
Rate of development of malignant tumors in euthyroid and athyroid rats . . 25
Ratio between specific growth rates of rat skull 110
Rats, experimental tumor development in 21
Rats, relation of heart and adrenal weight to body size and experimental hypertension 1
Rats, Sprague Dawley 213
Reduction of somite number due to 8-azaguanine 16
Reproductive capacity, mathematical study of 248–250
Respiration in *Chilomonas* 187, 192

Sagittal length, rat 115
Scutellum, growth of 38, 42
Sexual differences in skull morphology in adult rats 115
Skull base of rats 109
Sphenoid width, rat 114
Survival time of rats bearing carcinoma G-175 270
Symposium on Genetic Recombination (Book Review) 227
Systolic blood pressure of rats 6

Tarsometatarsus, growth measurements of 285
Testosterone propionate, effect on mitotic rates in mice 57
The American Arbacia and Other Sea Urchins (Book Review) . . . 321
Thelypteris sp. 99
Thiouracil solution 213
administration of 214
Thyroid in cancer development 20
Thyroid, development of 300
Thyroid gland, embryonic development of 295
Thyroid,
guinea pig 315
histology of 303, 304
lymphocytic foci in 315
Thyroid hormone, effect on carcinogenesis 26
Thyroidectomy, effect on retardation of body weight 24
Thyroidectomy, effect on tumor development in rats 21
Thyrotrophin, liberation of 218
Total nitrogen and protein nitrogen in embryonic chick liver 77
Tropic responses of coleoptiles 33
Tryptophane content of chick and mouse embryo 229
Tumor tissue, nucleic acids of 265

Ultracentrifuge patterns at various stages of development 198, 199
Unilateral renal artery constriction 2

Variation in protein content of chick embryo during growth 233
Vitamin B_6-deficient rats 2

Width of the dental arches in white children 159

X-irradiation, effect on growth of *Avena* seedlings 29

Yolk lipoprotein 207

Zea mays, reciprocal hybrids of 37